

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-7. (canceled)

8. (currently amended) An optical fiber, comprising:

an entrance face that is optically coupleable with a device for transmitting a light beam through said optical fiber,

wherein said entrance face is provided with a structure that diffracts a light beam reflected by said entrance face.

9. (currently amended) ~~The optical fiber according to claim 8,~~ An optical fiber, comprising:

a core and a cladding;

an entrance face that is optically coupleable with a device for transmitting a light beam through said optical fiber, said entrance face being configured such that said core protrudes from said cladding, an end face of said core being parallel with an end face of said cladding,

wherein said entrance face is provided with a structure that diffracts a light beam reflected by said entrance face

~~wherein said optical fiber includes a core and a cladding, and~~

~~wherein said entrance face is formed such that said core protrudes from said~~

~~cladding, an end face of said core being parallel with an end face of said cladding.~~

10. (original) The optical fiber according to claim 9,

wherein said core protrudes from said cladding by a length less than $\lambda/(4n)$,
where λ represents the wavelength of the light reflected by said entrance face, and n
represents the refractive index of a medium transmitting the light.

11. (original) The optical fiber according to claim 10,

wherein said core protrudes from said cladding by a length equal to $\lambda/8n$.

12. (currently amended) ~~The optical fiber according to claim 8,~~ An optical fiber,
comprising:

a core and a cladding;

an entrance face that is optically coupleable with a device for transmitting a light
beam through said optical fiber, said entrance face being recessed at said core with an
end face of said core being parallel with an end face of said cladding,

wherein said entrance face is provided with a structure that diffracts a light beam
reflected by said entrance face

~~wherein said optical fiber includes a core and a cladding, and~~

~~wherein said entrance face is recessed at said core with an end face of said core~~
~~being parallel with an end face of said cladding.~~

13-27. (canceled)

28. (original) An optical fiber, comprising,

an entrance face that is optically coupleable with a device for transmitting a light
beam through said optical fiber,

wherein said entrance face is provided with a step having a height less than $\lambda/4n$, where λ represents the wavelength of the light beam reflected by said entrance face, and n represents a refractive index of a medium transmitting the light.

29. (new) The optical fiber according to claim 12, wherein said core protrudes from said cladding by a length less than $\lambda/(4n)$, where λ represents the wavelength of the light reflected by said entrance face, and n represents the refractive index of a medium transmitting the light.

30. (new) The optical fiber according to claim 29, wherein said core protrudes from said cladding by a length equal to $\lambda/8n$.

31. (new) The optical fiber according to claim 9, wherein said cladding is at least partially covered with a coating that enhances the reflectivity of said entrance face.

32. (new) The optical fiber according to claim 31, wherein said coating is formed substantially over a whole area of said cladding.

33. (new) The optical fiber according to claim 31, wherein said coating is selectively formed on an area of said cladding defined in a vicinity of said core.

34. (new) The optical fiber according to claim 31, wherein said coating is made of metal.

35. (new) The optical fiber according to claim 31, wherein said coating has a mirror surface.

36. (new) The optical fiber according to claim 31, wherein said entrance face is perpendicular to an optical axis of said optical fiber.

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37 (new) The optical fiber according to claim 12, wherein said cladding is at least partially covered with a coating that enhances the reflectivity of said entrance face.

38 (new) The optical fiber according to claim 37, wherein said coating is formed substantially over a whole area of said cladding.

39 (new) The optical fiber according to claim 37, wherein said coating is selectively formed on an area of said cladding defined in a vicinity of said core.

40. (new) The optical fiber according to claim 37, wherein said coating is made of metal.

41. (new) The optical fiber according to claim 37, wherein said coating has a mirror surface.

42. (new) The optical fiber according to claim 37, wherein said entrance face is perpendicular to an optical axis of said optical fiber.